

**BEST AVAILABLE COPY****RECEIVED**  
CENTRAL FAX CENTER**SEP 13 2006**

10/519,446

**REMARKS**

Paragraph 038 of the specification is objected to for the reasons noted in the official action. The above requested specification amendments are believed to overcome all of the raised informalities concerning this case. If any further amendment to the specification is believed necessary, the Examiner is invited to contact the undersigned representative of the Applicant to discuss the same.

Claim 21 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons noted in the official action. Rejected claim 21 is accordingly amended, by the above claim amendments, and all of the presently pending claims are now believed to particularly point out and distinctly claim the subject matter regarded as the invention, thereby overcoming all of the raised § 112, second paragraph, rejections. The entered claim amendments are directed solely at overcoming the raised indefiniteness rejection(s) and are not directed at distinguishing the present invention from the art of record in this case.

The Applicant thanks the Examiner for indicating that claims 16 and 20 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claim(s). In accordance with this indication, claims 16 and 20 are appropriately revised, to be independent claims, and those two amended independent claims are now believed to be allowable. With respect to the remaining claims, the above amendments and the following distinguishing remarks are submitted concerning the allowability of those claims.

Claims 12, 13 and 17-19 are rejected, under 35 U.S.C. § 102(b), as being anticipated by Akashi et al. '596. The Applicant acknowledges and respectfully traverses the raised anticipatory rejection in view of the following remarks.

Akashi '596 discloses an actuation system for a transmission synchronizer providing regulated engagement pressure. The synchronizer has a synchronizer sleeve 16f which slides

09/13/06 12:00 PM

- 7 -

10/519,446

to the right or left to engage one of a first or a third speed cone member 16b, c. According to the Akashi '596 disclosure, the synchronizer sleeve 16f is adjusted by a selector fork 60 which is fixed to a selector fork shaft 58. The selector fork shaft 58 is shifted by way of a click stop mechanism and hydraulic drive mechanisms. The hydraulic drive mechanisms include piston members and pressure chambers. In order to change gears, the pressure in one of the pressure chambers is increased and such increase of pressure in the pressure chamber pushes the piston which, in turn, biases a separate selector fork shaft. The selector fork, fixed to the selector fork shaft, slides axially to adjust the associated synchronizer sleeve. This system for adjusting gears, although arguably effective, requires an unnecessary amount of space and number of individual pieces to effectuate the gear change. Moreover, the above disclosed apparatus of Akashi '596 is vastly different from the presently claimed invention for a number of fundamental reasons.

According to the claims of the current application, a sliding sleeve 6 communicates with a shaft 1 by way of a hub element 7 and a catch device 3, 8, 9. The sliding sleeve 6 is axially displaceable along the shaft by a pressurized piston 10 which is directly connected therewith. The piston 10 communicates with a source of hydraulic pressure such that when the pressure is increased, the piston 10 forces the sliding sleeve 6 to move axially along and relative to the shaft 1. The catch device causes the sliding sleeve 6 to bias the hub element 7 which, in turn, communicates with either the second disk element 5 or a brake element 13. The second disk element 5 frictionally engages the idler wheel 2 so as to reduce and synchronize the rotational speed thereof. At a certain pressure, the catch device releases the sliding sleeve 6, thus causing the sliding sleeve 6 to engage the idler wheel 2.

In distinct contrast to the currently claimed invention, the system of Akashi '596 does not include the presently claimed sliding sleeve/catch device arrangement but rather includes multiple shift forks, multiple shift fork shafts, multiple stop grooves and as well as other

9/13/06-12:00 PM

- 8 -

10/519,446

elements that are generally unnecessary for the presently claimed invention. Additionally, the sliding sleeve of Akashi '596 is adjusted by the shift fork fixed to a shift fork shaft, whereas the sliding sleeve, according to the presently claimed invention, is biased directly by a hydraulically actuated piston. Accordingly, the raised rejection in view of Akashi '596 should be withdrawn at this time in view of the above amendment and remarks.

In order to emphasize the above noted distinctions between the presently claimed invention and the applied art, independent claim 12 now recites the features of "... the sliding sleeve (6) being non-rotatably and axially displaceable on a shaft (1) by way of a piston (10) directly connected thereto, the sliding sleeve (6) is supported by the shaft (1) via a hub element (7) and a releasable catch device (3, 8, 9) facilitates axial movement of the sliding sleeve (6) relative to the hub element (7), and a synchronizing operation can be implemented as a function of hydraulic pressure supplied to the piston (10), in a non-switched state, an actuation pressure supplied to the piston (10) is equal to an initial pressure ( $P_0$ ) and no axial movement of the sliding sleeve (6) occurs; in a release state, the actuation pressure supplied to the piston (10) is above a second pressure ( $P_s$ ), at which the releasable catch device (3, 8, 9) releases the sliding sleeve (6); so that the sliding sleeve (6) becomes axially displaced by the piston (10) relative to the hub element (7) so that the sliding sleeve (6) and the idler wheel (2) engage with one another; and during an RPM adjustment state, the actuation pressure supplied to the piston (10) is to at a first pressure ( $P_1$ ), which is greater than the initial pressure ( $P_0$ ) but lower than the second pressure ( $P_s$ ), such that the piston (10) induces axial displacement of the sliding sleeve (6) and the hub element (7) toward the idler wheel (2) so as to compensate for any RPM rotational difference between the sliding sleeve (6) and the idler wheel (2)."

Such features are believed to clearly and patentably distinguish the presently claimed invention from all of the art of record, including the applied art.

10/519,446

Next, claims 14 and 15 are rejected, under 35 U.S.C. § 103(a), as being unpatentable over Akashi et al. '596 in view of Grinham et al. '807 while claim 21 is rejected, under 35 U.S.C. § 103(a), as being unpatentable over Akashi et al. '596 in view of Kawamura et al. '872. The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the following remarks.

Initially, the Applicant acknowledges that the additional references of Grinham et al. '807 and Kawamura et al. '872 may arguably relate to the feature(s) indicated by the Examiner in the official action. Nevertheless, the Applicant respectfully submits that the combination of the base reference of Akashi et al. '596 with this additional art of Grinham et al. '807 and/or Kawamura et al. '872 still fails to in any way teach, suggest or disclose the above distinguishing features of the presently claimed invention.

Further, as the Examiner is well aware there must be some motivation or suggestion in the applied combination of art that would cause someone to combine the teachings of the applied references. As stated, "[I]n concluding that obviousness was established by the teachings in various pairs of references, the district court lost sight of the principle that there must have been something present in those teachings to suggest to one skilled in the art that the claimed invention before the court would have been obvious." W. L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1551, 220 USPQ 303, 311 (CAFC 1983).

More specifically, Grinham et al. '807 relates to a speed gear change mechanism. The gear change mechanism has a manual shift lever of some sort, as can be seen in the top portion of FIG. 1. The shift lever slides a shift fork along a shift fork shaft. The shift fork biases a gear wheel 12 to communicate with dog teeth on a hub portion of a gear wheel thus achieving the desired gear shift. The slidable gear 12 and a clutch sleeve 25 have a frictionally resilient connection between them, however, there are significant differences between the cited references and the currently claimed application.

09/13/06 12:00 PM

- 10 -

10/519,446

Even if one skilled in the art found the necessary teaching, suggestion or motivation to combine Akashi et al. '596 with Grinham et al. '807, but the Applicant adamantly contends that there is no such suggestion, the combination of the cited references would still fail to teach, suggest or disclose the above discussed important aspects of the claimed invention.

Moreover, the presently pending claims recite a sliding sleeve (6) that is non-rotatably and axially displaceable along the shaft by way of a pressurized piston directly connected with the sliding sleeve (6). None of the applied art is believed to in any way teach, suggest or disclose such feature. In view of the above amendments and remarks, the Applicant respectfully submits that all of the raised rejections, in view of the applied, should be withdrawn at this time.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Akashi et al. '596, Grinham et al. '807 and/or Kawamura et al. '872 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

9/13/06 - 12:00 PM

- 11 -

RECEIVED  
CENTRAL FAX CENTER

SEP 13 2006

10/519,446

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



Michael J. Bujold, Reg. No. 32,018

Customer No. 020210

Davis & Bujold, P.L.L.C.

112 Pleasant Street

Concord, NH 03301-2931

Telephone 603-226-7490

Facsimile 603-226-7499

E-mail: patent@davisandbujold.com

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☒ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**